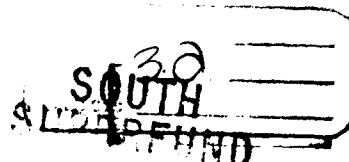


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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IV
ENVIRONMENTAL SERVICES DIVISION
960 COLLEGE STATION RD.
ATHENS, GA 30613



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BRANCH 3597

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MEMORANDUM

DATE: December 10, 1991

SUBJECT: Evaluation of QC and Split Sample Data from Olin
Chemicals Site, McIntosh, AL

FROM: Gary Bennett, Chemist
Laboratory Evaluation and
Quality Assurance Section

TO: Ken Lucas, RPM
South Superfund Remedial Branch
Waste Management Division

THRU: Wade Knight, Chief
Laboratory Evaluation and
Quality Assurance Section

We have received and evaluated data packages for fourteen soil and seven water samples collected at the subject site from August 13 through September 16, 1991. These samples were split between the PRP's laboratory, Gulf South Environmental Laboratory, New Orleans, LA; and the Region IV ESD Laboratory.

The split samples were analyzed for metals, cyanide and organics (volatiles, semivolatiles, and pesticides/PCBs). The overall agreement between the two labs for the split sample results was good. However there were three analytes for which discrepancies were noted: hexachlorobenzene (HCB), mercury, and cyanide. The two labs were in agreement qualitatively for HCB, i.e., both reporting the presence of the compound in the same samples, but there were five soil samples in which quantitations differed markedly, sometimes by an order of magnitude. We cannot provide an analytical explanation as to why the concentrations differ so widely.

The differences for the mercury analyses were noted in three water samples in which the ESD lab reported non detects (<0.2 ppb) in two of the samples, while the PRP's lab reported 1.1-1.5 ppb; and a third sample where ESD reported 0.41 ppb while the PRP's lab reported 2.8 ppb.

The differences for cyanide were noted in two water and one soil sample where ESD did not detect the analyte while the PRP's lab reported cyanide ranging from 15-32 ppb in the waters and 4.7 ppm in the soil sample.

In addition to the split samples, the PRP's lab also analyzed ESD supplied blank and spiked samples. The lab's performance on the spiked samples was acceptable. The laboratory reported several volatile compounds in the blind water blank at relatively low concentrations. The volatile compounds reported were methylene chloride, acetone, carbon disulfide, 1,1 dichloroethene, and chloroform. The first two compounds are common lab contaminants and are often seen in blank samples. The remaining three compounds are not normally found in blanks. The presence of these compounds indicates that any positives reported for these same analytes in the field samples should be carefully evaluated to determine if the compounds are native to the sample or are actually contaminants introduced during the sample analysis.

While there were some discrepancies as noted above, the bulk of the split sample and QC data indicate the PRP's data are acceptable. However, if the particular analytes (hexachlorobenzene, mercury and cyanide) mentioned as problem areas are crucial to clean-up at this site, further sampling and analysis may be needed to try and resolve these issues. Copies of the ESD data are attached. Please contact me at FTS 250-3287 if have any questions.

Attachments

cc: Bokey/Hall w/o attachments